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HOW TO THINK CLEARLY ABOUT THE RELATIONSHIP BETWEEN NEUROSCIENCE AND LAW

Reading Materials

1. Biographical Information on Dennis Patterson, Esq.

2. The Moral Conflict of Law and Neuroscience

3. Review of Peter A. Alces, The Moral Conflict of Law and Neuroscience
BIBLIOGRAPHICAL INFORMATION ON DENNIS PATTERSON, ESQ.

Dennis Patterson is Board of Governors Professor of Law and Philosophy at Rutgers University. From 2009 -2017, he held the Chair in Legal Theory at the European University Institute in Florence. He also has an appointment at Surrey Law School in England. He writes in three fields: legal theory, law and neuroscience and Global Trade. He has published many books and articles in each field. Minds, Brains, and Law (OUP, 2013, with Michael Pardo) was the first monograph in the field of law and neuroscience.
The Moral Conflict of Law and Neuroscience

PETER A. ALCES
This book is, essentially, a thought experiment: What should law be in order to govern the affairs of human agents who do not have moral responsibility? It proceeds from the premise that human agents do not, in fact, have moral responsibility and that the mechanical nature of human agency is confirmed by neuroscientific insights that have revealed—albeit so far incompletely, perhaps even only vaguely—the chemical, electrical, and structural incidents of neural processes of the brain. And we are no more than our brains; we could not be. That conclusion entails hard determinism, the realization that we are the product of forces. Indeed, we cannot even say "the product of forces acting upon us" because we are the sum of the forces, not the object of their action. And that conclusion engages the contours of normative theory: even our understanding of our understanding.

The first chapter surveys the terms of that engagement, signaling the disruptive nature of the materialism that the thought experiment indulges. The chapter provides the necessary guide to the scope of the inquiry and describes the points at which the book’s thesis joins the normative conversation. The focus is on the difference it would make to the law if things are not as they seem, if we are not as we seem. The book’s argument is disruptive: I suggest that all, or virtually all, of our law largely depends on a gross misunderstanding of its subject—the human agent. The law often fails because the legal doctrine misunderstands what it means to be human. Further, extant comprehensive interpretive theories of law, theories that combine the positive and the normative, provide the arguments in support of the doctrine’s misapprehension. It is the noninstrumental theories that make the fundamental conceptual error. Instrumental theories fail too, but
their failure is largely attributable to empirical rather than conceptual error. Instrumental theory could take account of an authentic understanding of human agency; noninstrumental theory denies the materialism and the determinism that define human agency and so could not understand what it means to be human.

Chapters 2 through 7 proceed in pairs: Chapter 2 describes illustrative aspects of criminal law that depict the neuroscientific naïveté of the doctrine; chapter 3 explains the failure of normative criminal law theory to understand the authentic human agency the perspective vindicated by neuroscientific insights would reveal. Chapter 4, then, similarly presents illustrative tort law doctrine and chapter 5 describes the failure of noninstrumental tort theory, focused on corrective justice and civil recourse, to take account of an authentic conception of human agency. Chapter 6 treats the consent criterion in the contract law, primarily the operation of boilerplate in consumer contracts, and chapter 7 demonstrates the failure of noninstrumental contract law theory that relies on a misunderstanding of what consent and promise could mean to human agents, actors without moral responsibility.

Neither each chapter nor any pair of chapters is a self-contained whole. That is, the argument of the book progresses through the several chapters, emphasizing the portions of the argument that are best presented within the context of each of the doctrinal and theoretical discussions. There are some aspects of the determinism vindicated by neuroscientific insights that are best framed in the context of considering the retribution interest in the criminal law. Those observations may then be refined in the tort chapters and only appreciated in their full breadth in terms of the consent criterion in the contract law. The argument builds through the book to, ultimately, sustain the weight of the conclusion that the premise that founds much if not all of law—moral responsibility—is chimerical. Only at the end of the journey will the consequences of the argument emerge in full relief. That is the scheme, at least.

Chapter 8 then takes account of the arguments that might be (even anticipatorily have been) offered in response to critique of legal doctrine and normative theory that would rely on neuroscientific insights to deny the moral responsibility of human agents. The object is to join the conversation and also to suggest new lines of thought. The approach is heterodox, “scorched earth” in fact: Extant law, the orthodoxy, and apologies for it fail because the doctrine and theory misconceive human agency. So there is much work to be done.
An Age of Realization

The idea that our own understanding of ourselves, our conception of what it means to be human, may be wrong (or an illusion) is, to say the least, disquieting. How could we have been so wrong for so long about something that is literally right under, or above and behind, our very noses? It would be like learning that the earth is not flat, not the center of the universe, that stars are not fixed, that we are descended from "lower" life forms, that there is no God: very dangerous ideas. For most of human history and even down to the present time many people have been killed for even entertaining such thoughts. The fact that such a reconceptualization of human agency would change something so pervasive as our law and legal systems makes the matter even more salient.

Fodor famously concluded that "if commonsense intentional psychology really were to collapse, that would be, beyond comparison, the greatest intellectual catastrophe in the history of our species; if we're wrong about the mind, then that's the worstest we've ever been about anything." The sky surely would be falling. Of course, to compare how wrong we may be about human agency with how wrong we have been about other things ("innate" racial superiorities, "innate" gender superiorities, heliocentrism, intelligent design, bloodletting, occultism, magic, alchemy, just for examples) might be a tad alarmist. To discover the extent, or even existence, of the catastrophe, it would be necessary to focus on a context and then to measure the effect of reconceptualizing more accurately human agency in that context. That is what this book has endeavored to do. It has taken seriously the materialism and monism, the hard determinism established by emerging neuroscientific insights that reveal the deficiencies of the folk psychological heuristics that have animated and actually determined the contours of our social system of law and its three primary fields: criminal, tort, and contract law.
This final chapter will take up the challenge Fodor presented by knocking down the strawmen that founded his fears and the fears of like-minded legal theorists. It also will draw a telling parallel between the challenge the current age presents to our thought and the challenge that Bacon, Descartes, Copernicus, Galileo, and Newton confronted in their time. If the seventeenth century was the Age of Genius and the eighteenth century was the Age of Enlightenment, then the twenty-first century may be ushering in a new Age of Realization, the realization that we are not what we thought we were. If we are able to marshal that better understanding, the realization will not be the catastrophe Fodor feared, but a time when our social institutions, most prominently our laws, will necessarily become more humane because they will better reflect what it means to be human.

The primary foil of this final chapter will be ideas recited by many of the meek compatibilists who, by definition, are unable to come to terms with the consequences of hard determinism for conceptions of moral responsibility. A recent book chapter and a recent article written by Stephen Morse, the leading defender of the legal status quo in the face of the hard deterministic critique, provide at several junctures an accessible rendition of those arguments in favor of keeping on the blinders that neuroscientific insights vindicating the materialism of hard determinism would remove. Assault on each of six strawmen that perspective has set up demonstrates the failure of current legal conceptions and foreshadows the Age of Realization.

**Legal Doctrine Is Folk Psychological**

It is, though, only fair, and completely accurate, to begin by noting the important idea that Morse got completely right: Our extant law—criminal, tort, and contract—depends on commonsense folk psychological conceptions. Morse was correct to recognize, as this book also has emphasized, that it is not just the criminal law that depends on folk psychology and its misconception of human agency; all of law, to some extent, depends on folk psychology and folk psychology–supported fictions. Further, normative apologies for noninstrumental interpretations (normative or positive) of the law depend on the same mistake. (Instrumental theories too may be mistaken, as developments in behavioral psychology and economics would reveal, but those errors are empirical rather than conceptual and more remediable therefor.) Yet it is one thing to observe that the law *is* based on
folk psychology (a correct observation) and wholly another to say that it must (dubious) or should (wrong) be based on folk psychology.

The language of legal doctrine across the three primary areas considered in this book certainly supports the conclusion that the law assumes the rectitude of folk psychology. Even if instrumental interpretations of the law seem to some more congenial, those instrumental interpretations may be accomplished only by translating moral terms—such as responsibility, fault, culpability—into instrumental terms—such as efficient—to achieve instrumental, that is, utilitarian, ends. Retribution, blame, fault, desert, consent, and promise really have no meaning unless afforded one in noninstrumental terms or translated into instrumental objects. As a historical matter, though, it would seem clear that the fundamental concepts were designed to resonate with deontological, probably primarily Aristotelian and Kantian, ideas. It would follow, then, that such folk psychological concepts are only as correct as Aristotle and Kant and noninstrumentalism generally could be about human agency.

It is a thesis of this book that deontological normative theory fails to understand the nature of human agency, and that failure is confirmed by the insights neuroscientific findings provide into the way the behavior of human agents is determined. Although it is not necessary (and beyond the scope of this book) to engage the breadth of the deontological tradition, it is the case that if deontology fails, then legal doctrine premised on deontological principles fails along with it. And, of course, deontological normative interpretations of the doctrine would be incoherent.

**Strawman I: “Common Sense”**

Fodor referred to “commonsense intentional psychology.” Morse built on Fodor's conclusion that that commonsense notion is accurate (as well as indispensable to the current law, not the same thing): “our commonsense understanding of agency and responsibility and the legitimacy of law generally and criminal law in particular are not imperiled by contemporary discoveries in the various sciences, including neuroscience and genetics.” The refutation of that summary conclusion was the object of the preceding six chapters. Each of the chapters demonstrated that crucial conceptions supporting pivotal portions of the doctrine and noninstrumental normative theory fail when neuroscientific insights, including the increasing number of studies that demonstrate the effect of nature and
nurture on individual human agents, are deployed to reveal the failure of moral responsibility. So it is just not correct that “our commonsense understanding . . . [is] not imperiled.” In fact, our commonsense notions are conclusively undermined, at least insofar as criminal law embraces retribution, tort law’s negligence takes some sense of wrong or moral responsibility seriously, and contract law depends on consent and promise. Those legs of the doctrine and theory supporting the three primary legal areas are indispensable to our commonsense notions and are imperiled.

Further, though Fodor and Morse may have understood this, commonsense is not an argument. Keep in mind that common sense has explained many clearly wrong and even evil theories and social practices. Wootton recounts the common sense of a typical well-educated European in the seventeenth and eighteenth centuries:

[W]e will take someone from England, but it would make no significant difference if it were someone from any other European country as, in 1600, they all share the same intellectual culture. He believes in witchcraft and has perhaps read the _Daemonologie_ (1557) by James VI of Scotland, the future James I of England, which paints an alarming and credulous picture of the threat posed by the devil’s agents. He believes witches can summon up storms that sink ships at sea—James had almost lost his life in such a storm. He believes in werewolves, although there happen not to be any in England—he knows they are to be found in Belgium (Jean Bodin, the great sixteenth-century French philosopher, was the accepted authority on such matters). He believes Circe really did turn Odysseus’s crew into pigs. He believes mice are spontaneously generated in piles of straw. He believes in contemporary magicians: he has heard of John Dee, and perhaps of Agrippa of Nettesheim (1486–1535), whose black dog, Monsieur, was thought to have been a demon in disguise. If he lives in London he may know people who have consulted the medical practitioner and astrologer Simon Forman, who uses magic to help them recover stolen goods. He has seen a unicorn’s horn, but not a unicorn.

He believes that a murdered body will bleed in the presence of the murderer. He believes that there is an ointment which, if rubbed on a dagger which has caused a wound, will cure the wound. He believes that the shape, color and texture of a plant can be a clue to how it will work as a medicine because God designed nature to be interpreted by mankind. He believes that it is possible to turn base metal into gold, although he doubts that anyone knows how to do it. He believes that nature abhors a vacuum. He believes the rainbow is a sign from God and that comets portend evil. He believes that dreams predict the future, if we know how to interpret them. He believes, of course, that the earth
stands still and the sun and stars turn around the earth once every twenty-four hours—he has heard mention of Copernicus, but he does not imagine that he intended his sun-centered model of the cosmos to be taken literally. He believes in astrology, but as he does not know the exact time of his own birth he thinks that even the most expert astrologer would be able to tell him little that he could not find in books. He believes that Aristotle (fourth century BCE) is the greatest philosopher who has ever lived, and that Pliny (first century CE), Galen and Ptolemy (both second century CE) are the best authorities on natural history, medicine and astronomy. He knows that there are Jesuit missionaries in the country who are said to be performing miracles, but he suspects that they are frauds. He owns a couple of dozen books.

Fortunately, though, “common sense” over time becomes more sensible:

But now let us jump far ahead. Let us take an educated Englishman a century and a quarter later, in 1733[...]. Our Englishman has looked through a telescope and a microscope; he owns a pendulum clock and a stick barometer—and he knows there is a vacuum at the end of the tube. He does not know anyone (or at least not anyone educated and reasonably sophisticated) who believes in witches, werewolves, magic, alchemy or astrology; he thinks the Odyssey is fiction, not fact. He is confident that the unicorn is a mythical beast. He does not believe that the shape or colour of a plant has any significance for an understanding of its medical use. He believes that no creature large enough to be seen by the naked eye is generated spontaneously—not even a fly. He does not believe in the weapon salve or that murdered bodies bleed in the presence of the murderer.

Like all educated people in Protestant countries, he believes that the Earth goes round the sun. He knows that the rainbow is produced by refracted light and that comets have no significance for our lives on earth. He believes the future cannot be predicted. He knows that the heart is a pump. He has seen a steam engine at work. He believes that science is going to transform the world and that the moderns have outstripped the ancients in every possible respect. He has trouble believing in any miracles, even the ones in the Bible. He thinks that Locke is the greatest philosopher who has ever lived and Newton the greatest scientist. [...]. He owns a couple of hundred—perhaps even a couple of thousand—books. [...]. The only name we have for this great transformation is “the Scientific Revolution.”

More recently (but no less frighteningly) common sense has provided argument in favor of limiting the rights of racial minorities and women (a common sense built into leading religious beliefs and systems as well).
and criminalizing sodomy. Common sense, then, does not have an excellent track record and quite often has significantly retarded the progress of human understanding. In only the last few years, what was once common sense is now condemned as wrong, and perniciously so.

It is common sense, Fodor and Morse have confirmed, that supports the notion of human free will. Through scientific advances we have unveiled many of the governing laws of the physical universe, yet the human brain seemingly cannot be reduced to any set of rules. Wolfram equated this to the behavior exhibited by a cellular automation model. Although the underlying rules are entirely definite, when carried through enough iterations, the overall system appears to follow no obvious laws. Wolfram identified this as the source of our tendency to believe in free will. Although individual neural cells follow discrete laws, they are too far removed from the complex behavior of the human brain, creating an illusion of freedom. This “irreducible computation” phenomenon indeed continues to fool the typical well-educated citizen of the twenty-first century, an error that perhaps the Age of Realization will allow us to overcome. All this is not to say that common sense is always wrong; it is just to make the point that common sense is not an argument: It is a description of accepted thinking that may be right, but may be very wrong as well.

Strawman 2: Overconfidence in Science

Morse expressed concern that neuroscience overclaims, and so neuroscience is likely to be enlisted to support arguments it is actually impotent to make. Certainly there are examples of some who would stretch the emerging neuroscience beyond its breaking point, even for apparent pecuniary gain. But the important theoretical critique proceeds on a different level, a more profound level that challenges naive notions of human agency. It is in the elaboration of his overclaim argument that Morse failed to appreciate the nature of the fundamental materialistic challenge to the erroneous conception of human agency vouched safe by the extant legal doctrine and noninstrumental theory:

Many people intensely dislike the concept and practice of retributive justice, thinking that they are prescientific and harsh. Their hope is that the new neuroscience will convince the law at last that determinism is true, no offender is genuinely responsible, and the only logical conclusion is that the law should
adopt a consequentially based prediction/prevention system of social control guided by the knowledge of the neuroscientist-kings who will finally have supplanted the platonic philosopher-kings. Then, they believe, criminal justice will be kinder, fairer and more rational. They do not recognize, however, that most of the draconian innovations in criminal law that have led to so much incarceration—such as recidivist enhancements, mandatory minimum sentences, and the crack/powder cocaine sentencing disparities—were all driven by consequential concerns for deterrence and incapacitation. Moreover, as C. S. Lewis recognized long ago, such a scheme is disrespectful and dehumanizing (Lewis 1953). Finally, there is nothing inherently harsh about retributivism. It is a theory of justice that may be applied toughly or tenderly. It is worthwhile to consider each of those points seriatim.

First, it would, I suppose (with some confidence), be difficult to accurately describe the reasons that those who dislike noninstrumentalist retribution have for disliking it. The problem is not certainly with retribution’s being “prescientific and harsh.” Compassion and mercy are prescientific in just the same way, and withholding either may seem harsh. But it is not obvious that those who are considerate of compassion and mercy see them as scientific rather than prescientific. They are strategies or dispositions that may or may not be efficacious. It does not strain credulity to believe that those who dispense or withhold compassion, mercy, or retribution, for that matter, do so in a manner considerate of the consequences of their action or inaction. Their object may be behavior modification, and they show compassion or mercy or might even seek retribution, in the instrumentalist sense, because they believe that doing so will yield the best consequences by some measure. Such instrumentalism is not what Morse had in mind. He would defend noninstrumental retribution, the variety that depends on deontological premises, based on something like an ephemeral moral realism. The problem with that perspective is not that it is prescientific; the problem with it is that it is wrong, even morally wrong.

A second point is related. Morse’s conclusion is essentially cynical and attributes intellectual dishonesty (or self-delusion) to those who question his conception of common sense. When Morse based his response to determinism on an unease with retribution, he had the reasoning process perfectly reversed: Determinists do not deny compatibilism and embrace determinism because it provides the means to avoid retributionary punishment; they are compelled to the deterministic conclusion and the rejection of noninstrumental retribution that entails because that is the only way they
can make sense of human agency in light of neuroscientific realities. Morse opined that those uncomfortable with retribution are hopeful that neuroscience will vindicate determinism. That puts the cart before the horse; it would seem more generous and, likely, more accurate to postulate that science will confirm determinism is true and so retribution based on free will, or at least compatibilism, is ultimately inefficacious. It is not the case that those who have a negative emotional reaction to retribution are looking for an instrumental argument against it. Hard determinists take human agents as they find them and then conclude that noninstrumental retribution is inefficacious. Proof of determinists’ intellectual honesty and Morse’s cynicism would be found in the consequences that determinism would discover from a conception of human agency that makes no room for retribution.

And this entails the important third point: While the rejection of retribution would likely lead to the abrogation of some forms of punishment, including capital punishment, that is because determinism reveals the ultimate immorality and inefficacy of some punishment regimes (e.g., the death penalty and isolation). It would be immoral to put to death someone who could not have ultimate moral responsibility or to isolate an incorrigible youth, who may prove to be corrigible as a young adult, who would be profoundly impaired by the isolation experience. At least that conclusion is open to the determinist. But there is nothing in the deterministic understanding of human agency that would actually preclude any form of punishment that did not, as an instrumental matter, result in more desirable consequences. As a matter of fact, though, it would seem that few could argue, once retribution was removed from the calculus, that the death penalty results in more desirable consequences. There are voluminous studies that confirm capital punishment’s ultimate inefficacy as a means of reducing crime and criminality. And can we be sure that retribution does not justify the harsh treatment of at least some juvenile offenders?

Further, there is nothing in the deterministic conclusion that necessarily results in shorter sentences for those convicted of engaging in antisocial activities. Indeed, the deterministic conclusion might result in essentially indeterminate sentencing, the kind of thing we are already seeing in the case of sexual predators. The deterministic perspective, which entails the conclusion that human agents are not morally responsible, would be neither more nor less harsh then. Sentencing would be a function of the continuing risk the convicted criminal presents to social welfare. That is why the neuroscientifically sophisticated response to the curious case of Mr. Oft concludes that once the offending tumor is confirmed to have been the
efficient cause of Mr. Oft's aberrational behavior and is certainly completely removed, there is no reason to incarcerate him. But retributive principles dependent on an inauthentic conception of human agency might well reach the opposite conclusion, as would Morse on conceptual rather than empirical bases.23

Indeed, if Mr. Oft's tumor could not have been thoroughly excised, so as to render him no longer a threat,24 the determinist who understands human agency as not entailing any notion of moral responsibility would find good reason to detain Mr. Oft, for the same reason public health officials would limit the movement of those with communicable diseases.25 But what would a punishment system based on retribution do? It would seem that you are to be set free when your sentence ends, when you have “paid your debt to society.” It would, of course, be serendipitous in the extreme if the risk were ameliorated precisely when (and not years before or after) you have paid that debt. The problem is not just that retribution is based on a fiction, the fiction of morally responsible human agents; it is that societal control by reference to retributionary principles will almost certainly lead to punishment practices in the criminal law that will frustrate rather than serve the interests of societal security. Retribution is a guess, based (for those who would follow, for example, Moore)26 on an emotional reaction but ultimately measured by something other than that emotional reaction, or so it would seem.27 One could certainly make the argument that all noninstrumental normative theory, at least since the time of Kant, has been an effort to rationalize emotional reactions, to give some ostensibly sophisticated and more than occasionally opaque reason for feeling the way you do.28

It would seem that Morse recognized, to his credit, the ultimate indeterminacy of retribution: “there is nothing inherently harsh about retributivism. It is a theory of justice that may be applied toughly or tenderly.”29 But there is ambiguity there: Is that an argument in favor of retribution (it seems to be) or is it a criticism of retribution's arbitrariness? Actually, it may be an argument in favor that fails to appreciate its own built-in refutation. Curiously, Morse offered no citation in support of that conclusion. Perhaps he considered it self-evident. But recognize that what Morse seemed to find lacking was any connection between retribution and instrumental purpose. So Morse's retribution would often not just fail to track instrumental objects; it might ultimately undermine them. Would he really endorse a retributive punishment that results in more crime, perhaps because the perpetrator had no reason to feel enough, or a certain quantum of, guilt? And,
if Morse would reject that measure of retribution, what measure would he endorse? (Moore seems to have undermined the other contestants.) Morse would have to posit and defend a theory of retribution before he could conclude that retribution could make any claim to even cooperate with instrumental bases of punishment. He offered no such defense; he just assumed that some sense of retribution makes sense within his incomplete conception of human agency.

**Strawman 3: Ought from Is**

Morse made the point that criminal law especially, but tort and contract law as well, is based on folk psychology. That is certainly true. But from that accurate positive observation he seemed to proceed to the normative conclusion that legal doctrine consistent with folk psychology is necessarily correct. That conclusion is built on the idea that folk psychology is correct because folk psychology explains how humans reason. Morse correctly observed that human agents respond to reason. (Of course it is true that all living organisms respond to reasons, broadly construed: Your dog wags its tail when it sees you or sits on your command for its own reasons.) From that observation, Morse concluded that it is folk psychology that, in fact, explains human agency: “Unless people are capable of understanding and then using legal rules to guide their conduct, the law is powerless to affect human behavior. The law must treat persons generally as intentional, reason-responsive creatures and not simply as mechanistic forces of nature.” It is one thing to say that people respond to reasons, the kind of reasons for which folk psychology seems to account. But it is wholly another to premise sufficient free will, via compatibilism, to premise moral responsibility on the ability to respond to reasons. And that is the crucial point that compatibilists miss; it is the point that demonstrates the insufficiency, and ultimate malignancy, of folk psychological justifications for the imposition of moral and, for that matter, legal responsibility.

It is at this point that Morse revealed the vacuity of the normative case he tried to make in favor of folk psychology: “Virtually everything for which agents deserve to be praised, blamed, rewarded or punished is the product of mental causation and, in principle, is responsive to reasons, including incentives.” Certainly, desert only makes sense in a system of moral responsibility. That conclusion is pertinent if all human agents were uncaused causes, equally, or even roughly equally, competent to respond
to reasons, including incentives. But we are not, as the work of Adrian Raine, considered at length in chapter 2, made clear. We do not all start out at the same place, and we do not all receive the same material and immaterial gifts that determine our ability to respond to reasons. The compatibilist argument that it all equals out in the end is just wrong. Indeed, it is compatibilism’s insistence that there is enough free will that makes the compatibilist conclusion incoherent. Small, seemingly insignificant discrepancies in competence at the outset (perhaps as a function of genetics or epigenetics) may determine significant differences in life choices and opportunities.

While Morse was correct that criminal, tort, and contract doctrine is certainly based on folk psychological conceptions of human agency, he was wrong to assume that the law should be based on folk psychology. As a matter of fact, it would not even be correct to assume that the law must be based on folk psychology. Instrumental theories of criminal, tort, and contract liability could easily be built on a normative system that wholly rejects folk psychology, and, contrary to Morse’s conclusion, doing so would not undermine human dignity; rather, it would recognize the accurate conception of human agency and allocate loss in the manner most likely to encourage human thriving.

In the meantime, though, we can and likely will limp along making determinations of legal responsibility by reference to folk psychology. At many junctures, such as with regard to the doctrine considered in this book, we could apply the law even if we reject the premise of folk psychology. Morse has recognized that “Folk psychology does not presuppose the truth of free will, it is consistent with the truth of determinism, it does not hold that we have minds that are independent of our bodies (although it, and ordinary speech, sound that way), and it presupposes no particular moral political view.” But would folk psychology make any sense if there is no such thing as free will? What would be the point of law based on folk psychology if there is no free will? It is surely the case that law can proceed from an inaccurate conception of human agency, but should it? To do so is ultimately to frustrate human thriving and the morality that even noninstrumentalists themselves seem to consider sacrosanct: treating like cases alike but recognizing differences that matter.

Morse thought that folk psychology works well enough as he conceived it as long as “human action is in part causally explained by mental states.” So “close enough is good enough”? But even for that conception of folk psychology to make normative sense, to connect human action to mental
states in a way that would support moral responsibility, folk psychology would need to do the very work that cognitive psychology, informed by neuroscientific insights, reveals more and more often that folk psychology cannot do. Curiously, Morse did not seem to appreciate the troublesome nature of his own observation that “demonstrating that an addict has a genetic vulnerability or a neurotransmitter defect tells the law nothing per se about whether the addict is responsible.” That seems to be correct: The reason why someone is an addict does not matter to legal doctrine that relies on folk psychology. We can take no issue with that as a positive matter. But Morse again at this juncture seemed to infer the ought from the is. If we are not uncaused causes, but, instead, the sum total of forces that have or have not acted upon us, the fault or credit, such as it would be, is not ours; the responsibility lies entirely outside us for the simple reason that there is no place within us independent of those forces, over which “we,” as separate reflective entities, have any control. Ultimately, then, law that is inconsiderate of that fact, law that blithely goes on assuming we are something that we are not will not fail to operate; it will just not operate very well.

It is here that we must find most curious Morse’s argument, considered above, that because of some lack of capacity not necessarily manifest in behavior psychopathy should be an excuse to criminal liability. What could possibly be the normative difference between the psychopath who lacks the ability to empathize because of trauma, genetic vulnerability, or structural brain defect and the addict who has the genetic vulnerability or neurotransmitter defect that is the efficient cause of her addiction? On what basis could Morse draw a normative distinction if all he has to work with are the rough tools, the too often misleading heuristics of folk psychology?

**Strawman 4: Compatibilism Is True**

Now we come to what Morse correctly understood to be the central foundation of his apology for the folk psychological basis and interpretation of legal doctrine: Compatibilism, the means to make sense of moral responsibility in a deterministic world, is the majority view among philosophers and is consistent with common sense, and so it must be true. There are several responses to that conclusion, but it is worthwhile to note that Morse seems to be a self-avowed determinist; after all, only those who accept the essential truth of determinism need compatibilism to try to make
some sense of the moral responsibility of human agents in a deterministic world.

Assuming that nose counting is of value, Morse discovered support for his conclusion in a poll that found that 59 percent of philosophers are compatibilists.42 “[P]lausible ‘compatibilist’ theories suggest that responsibility is possible in a deterministic universe.”43 Indeed, this is the dominant view among philosophers of responsibility and it most accords with common sense.44 Morse then relied on that conclusion to maintain that any contrary metaphysical argument would face a very high threshold to deny effectively the possibility of responsibility (which, he said, none does).

Initially, it is not clear what it means to say that 59 percent of philosophers share any conclusion about compatibilism and responsibility if no more than a small number of them agree on what compatibilism must be in order to overwhelm arguments against moral responsibility. It is not enough for Morse to just count the number of philosophers who agree with his conclusion: He would have to find sufficient noncontradictory reasons among them to support that belief. And it is difficult to find any two much less as many as 50 percent of philosophers who subscribe to the same conception of compatibilism and who reach the same conclusion about the effect of their conclusion on moral responsibility. Further, many of the arguments for compatibilism were developed before the dawn of the Age of Realization, when neuroscience could reveal aspects of human agency that philosophers could not even imagine, even from the armchair. It is likely that the percentage of philosophers who endorse compatibilism may not be static; it is certainly true that naturalistic perspectives have grown in influence in recent years, largely as a consequence of neuroscientific insights.45 It also would not be surprising that philosophers as a group need a worldview that makes room for moral responsibility, else they are out of business. Certainly much of the practice of philosophy depends on a view of human agency that accommodates the deontology of Kant and noninstrumentalism generally. Where would champions of those perspectives be if the human agent did not have some moral responsibility, if free will did not exist at all? It is not clear, then, why we would take the word of a divided, even fractured, corner of an endangered intellectual perspective and afford the view held by that group as entitled to extraordinary deference, especially on account of something as ephemeral as common sense.

The fact remains, though, that Morse’s description of legal doctrine as wholly unconcerned with the fact—and, I would argue, ultimate undermining truth—of determinism is certainly accurate. But he, again, muddled
the waters by misconstruing the materialistic critique. He assumed that determinists are looking for a way to excuse criminal acts: "the claim is that causation per se is an excusing condition. This is sometimes called the 'causal theory of excuse.' Thus, if one identifies genetic, neurophysiological, or other causes for behavior, then allegedly the person is not responsible." At that juncture, Morse certainly confused, though certainly not intentionally, important and divergent senses of responsibility and the normative significance of them.

Surely determinism does not entail excusing antisocial behavior; the determinist would be most interested in reducing the menace of those who upset the social equilibrium by instrumentally changing their behavior or, failing that, reducing the risk that those engaging in such behavior present to human thriving. So if there had been no surgery that could have removed the tumor that was the efficient cause of Mr. Oft's sexually predatory behavior, he would have to have been incarcerated and perhaps removed from situations in which he posed a threat for as long as he posed that threat. Understanding what causes an effect is not the same as excusing it, at least if excuse means something like forgive. Morse's apparent failure to appreciate that crucial point is quite clear:

Non-causation of behavior is not and could not be a criterion for responsibility because all behaviors, like all other phenomena, are caused. Causation, even by abnormal physical variables, is not per se an excusing condition. Abnormal physical variables, such as neurotransmitter deficiencies, may cause a genuine excusing condition, such as the lack of rational capacity, but then the lack of rational capacity, not causation, is doing the excusing work. If causation were an excuse, no one would be responsible for any action. Unless proponents of the causal theory of excuse can furnish a convincing reason why causation per se excuses, we have no reason to jettison the criminal law's responsibility doctrines and practices just because a causal account can be provided.

Of course no one is responsible, in the moral sense that would support such as retribution, for anything. That is the point. But (virtually) everyone is responsible in a causal sense, and that is all instrumental theory needs in order to deal with them and to protect society.

Part of the problem, illustrated by Morse's understanding of responsibility, may be that our vocabulary depends on the same misunderstanding that empowers misconceptions of human agency. Our ability to correctly conceptualize human agency is undermined by "[t]he powerful and ubiqui-
tous presence of our moral responsibility system [that] makes the truth of moral responsibility seem obvious, and objections to moral responsibility seem silly or incoherent. Our vast moral responsibility system has been developed and refined over many centuries, and its elaborate network of rules and principles makes it difficult to step outside the system and level criticisms against it.” It is as though we have been wearing virtual reality headsets that depict moral responsibility by denying the virtual nature of the image projected and cannot come to terms with authentic—materialistic, determined—human agency revealed by neuroscientific insights (again, broadly construed to include epigenetics, cognitive psychology, and behavioral economics). But once the normative vocabulary better comports with the realities of human agency, once moral responsibility is appreciated as the error it is in the case of human agency, we may approach normative questions generally and questions of legal doctrine and theory specifically in a way that will accommodate a more coherent system of social regulation. That assertion leads ineluctably to confrontation with another argument in favor of the status quo.

**Strawman 5: Neuroscience Does Not Explain Why Folk Psychology Is Wrong**

Keep in mind that folk psychology is not so much persistently wrong as it is persistently awkward, and so too often compels results and conclusions that are inconsistent and even incoherent. Punishing Mr. Oft because, in folk psychological lights, he is culpable, to blame for the actions a tumor in his brain provoked, is a mistake, from any coherent normative perspective that would not subscribe to insubstantial syllogisms such as “Brains don’t convince each other; people do.” Surely that offers no real argument. We hope that Morse would agree that people use their brains, and only their brains, to convince other people (insofar as everything everyone has ever done or ever could do is the product of brain activity). Certainly even those who believe that the mind is an uncaused cause of thought and action understand that the brain must at least instantiate what the mind somehow causes. We would not imprison someone for having bad eyesight; we would give them corrective lenses. So you could understand the brain as just as much of a physical system as are our senses generally, and just as or even more prone to error, which is sometimes correctible.

When neuroscience discovers the source of aberrant behavior in a neural
anomaly, neuroscience has indeed explained why folk psychology is wrong in the particular instance. When neuroscience isolates (if and when it can) the efficient source of the neural aberration, demonstrates the specific chemical, electrical, or structural anomaly that triggered the aberrant behavior, neuroscience has indeed supplanted folk psychology. Think of it this way, and the analogy, though worn, is apt: Your car fails to start one morning, and that causes you great distress and inconvenience. Applying folk psychological principles of blame and culpability to your car, you would sentence it to the garage for one week after replacing the starter. You will be without a car for the week, but you will have taught your car a lesson. Alternatively, after replacing the starter, you could just continue to drive the car. That would be better for you and for the rest of society that depends on you and your car.

It would certainly make sense to sentence someone to a prison term for correction, if, contrary to fact, correction were actually the result of serving that sentence, just as it would make sense to sentence your car to a few hours’ “rest” if its malfunction were related to overuse. It would make no more sense to sentence your car to rest for a week, though, if that would not improve your car’s performance, than it would to sentence a juvenile to isolation for his blameworthiness and culpability, if so doing actually resulted in his becoming a greater threat to society.

So every time neuroscientific insights help us isolate the cause of aberrant behavior and correct them in a way that would be obscured (or missed entirely) by the operation of folk psychological principles, neuroscience explains why folk psychology is wrong. Now that does not mean that the folk psychological response will not feel good, on some primitive level. We are, in fact, wired (or at least predisposed) to feel in just that way; that predisposition is fed by the very basic emotional reaction that proved adaptive. But it would be grave error to continue to rely on folk psychological conceptions that depend on those emotions and that will mislead in a society only vaguely like the one encountered by our forebears on the savannah. The problem is not so much that belief, desire, motivation, and similar folk psychological conceptions are wrong; the problem is that they are so imprecise that they too often mislead us into making decisions that are now actually maladaptive. Folk psychology worked well enough long enough, just as Newtonian physics worked well enough to explain what needed to be explained up to the twentieth century. But when Einstein explained time and relativity in terms that demonstrated Newton’s mistakes, we used Einstein’s conceptions to make better sense of our universe.
AN AGE OF REALIZATION

Strawman 6: Neuroscience Cannot Explain Justice

Belief, desire, and intent are the stuff of folk psychology: We infer something about other people’s motivations, and so their actions and predispositions, from inferences we draw from surrounding circumstances about their beliefs, desires, and intents. We like or dislike others on the basis of folk psychology states; we punish based on such states; and we impose civil liability too on the basis of inferences about beliefs, desires, and intents. That makes a measure of sense to even instrumentalists because a certainly accurate judgment about another’s beliefs, desires, and intents would be an excellent indicator of their dangerousness, or at least the extent to which they present a threat to the generally favored social order. So the greatest problem with folk psychology is not just that it focuses on the wrong thing or that it supports the imposition of legal liability on insubstantial bases. Folk psychological judgments may well be coincident with accurate judgments of dangerousness, of sociopathy. The problem with folk psychology is that it is a system of heuristics that actually obscures the important normative calculus by relying on imprecise inferences and then sanctioning (in the sense of punishing) the indicator—belief, desire, and intent—rather than the source of the indicator. We knew that Mr. Oft intended to sexually assault his stepdaughter. If we stop at the folk psychology conclusion and do not go further, to the level of cognitive neuroscience, we miss the opportunity both to more effectively respond to the risk his behavior presents and to conserve the resources that would otherwise be wasted on his incarceration (including the cost to him as well). In that way folk psychology leads to suboptimal, ineffectual—even bad—results, results that are not normatively defensible either.

But what about conceptions such as justice, or fairness, or even reasonableness, conceptions that seem to entail necessarily a normative calculus? Could neuroscience unpack in any meaningful way what justice is? Yes, once we understand that justice, fairness, reasonableness, and their cognates generally describe not morally real things but emotional reactions. When used in a noninstrumental sense, those terms are best understood as exclamations: captured by moral pronouncements such as “that’s just wrong.” Now that assertion, or observation, does not entail emotivism or even noncognitivism. Indeed, nothing suggested here is inconsistent with some conceptions of cognitivism. The observation merely reflects an empirical conclusion about the typical fit between the use of terms such as
CHAPTER EIGHT

justice and the underlying constituents of what might in fact be just once we identify a basis of morality, perhaps in terms of human thriving. Whether that observation moves the needle or even pertains to meta-ethical questions about the nature, existence, or identity of moral properties is quite beside the point made here.

Neuroscience certainly can explain emotional reactions and the exclamations that proceed therefrom. To the extent that such exclamations are used to describe an instrumental result, we can either do the mathematics to determine whether the challenged result in fact serves or deserves the instrumental object, or decide that the mathematics cannot be done or would be too expensive to do. If we use justice and its cognates in their most familiar noninstrumental sense, and understand that such terms describe emotional reactions, neuroscience can help us make sense of them.

Kandel won the Nobel Prize in Physiology or Medicine for his research into memory storage. Memory is learning. Kandel studied very simple organisms and discovered how they and we learn. [Nerve cells] have been conserved . . . through millions of years of evolution. Some of them were present in the cells of our most ancient ancestors and can be found today in our most distant and primitive evolutionary relatives: single cell organisms such as bacteria and yeast and simple multicellular organisms such as worms, flies, and snails. These creatures use the same molecules to organize their maneuvering through their environment that we use to govern our daily lives and adjust to our environment. . . . [T]he human mind evolved from molecules used by our lowly ancestors and . . . the extraordinary conservation of molecular mechanisms that regulate life's various processes also applies to our mental life.

So such neural phenomena—chemical, electrical, and structural—are all that we are, all that any living thing is. That is why Kandel's work was able to generalize from the simplest organisms to the human agent. All we are, all we can be, is a collection of neural material and an array of neural reactions.

There is, then, nothing mysterious, nothing holy, about justice. Winners generally find that the result was just; losers reach the opposite conclusion. That is probably adaptive, even if the perceptual mechanics seem suspect. Deontological ratiocination aside, it is no more complex than the disagreement between the opposing fans over a close call at home plate, or even between many of the judgments made by supporters of one rather
than another political party. Neuroscience explains justice as it explains everything else about human agency, in mechanical terms, and that is true even if we have not yet figured out all the mechanics. That may be, for some, even for most, the cause of an awakening. And the coming age, an Age of Realization, may be the rudest awakening yet.
Book Review

NEUROMANIA

Review of:

Peter A. Alces, The Moral Conflict of Law and Neuroscience, University of Chicago Press, 2018, pp. 377

Dennis Patterson¹

Introduction

Could it be that the picture of human agency presupposed by law is wrong? If it is, what does that say about the way we use law to justify everything from punishment to civil damages? These are some of the questions taken up by Peter Alces in this provocative and accessible book. Alces pulls no punches in making his case for a thoroughly materialist view of human nature.²

Persons are nothing more than biological machines. Every human action is the result of physical causes. Free will is an illusion. As for responsibility, Alces is clear: “Human agents are not morally responsible” (p. 210).³

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² Alces repeatedly claims that materialism is “disruptive” to our presuppositions about what it means to be human (p. xii). The consequence is that “legal doctrine misunderstands what it means to be human.” (Ibid.)

³ The book opens with this paragraph:

This book is essentially a thought experiment: What should law be in order to govern the affairs of human agents who do not have moral responsibility? It proceeds from the premise that human agents do not, in fact, have moral responsibility and that the mechanical nature of human agency is confirmed by neuroscientific insights that have revealed – albeit so far incompletely, perhaps even vaguely – the chemical, electrical, and structural incidents of neural processes of the brain. And we are no more that our
The law presupposes a conception of human agency grounded in folk psychology, that is, the everyday terminology we use to describe our thoughts, actions, and emotions.\textsuperscript{4} According to Alces, the law “misunderstands what it means to be human” (p. xiii). Folk psychology is “illusory,” (p. 171) “incoherent” (p. 35), and “fallacious” (p. 100). Brain science will “reshape what we understand to be the meaning of being human” (p. 3) and, when it does, “then that same brain science will reshape our law, from the moral foundations up” (p. 3). Human agency is “nothing more than physical reactions” (p. 6). In an analogy used several times in his book, Alces likens blaming humans for their actions to blaming a car for not starting (p. 8). Humans, like the cars they drive, are purely mechanical devices that occasionally require repair but benefit not at all from praise or blame.

The structure of Alces’ book is clean and crisp. The law, he argues, presupposes a conception of human nature that is at odds with neurological, chemical, and biological facts about persons. Folk psychology, the law’s conception of human nature, is bankrupt. The law must proceed from the correct view of human nature, that is, one that is thoroughly material and mechanical. Once we realize that the law’s picture of human nature is thoroughly without merit, we will quickly see that much legal doctrine makes no sense. After advancing his account of human nature, Alces looks at criminal law, tort law, and contract law for evidence that folk psychology leads us astray. He suggests ways in which each of these three areas of the law can be reformed in the light of the truth about human nature. The book’s final chapter is a seriatim

\textsuperscript{4} Alces describes folk psychology thus: “Folk psychology refers to what we engage in every moment of every day when we draw inferences about the thoughts and intentions of others from what we imagine to be going on in their minds” (p. 7).
indictment of all those “meek compatibilists [who are] unable to come to terms with the consequences of hard determinism for conceptions of moral responsibility” (p. 236).

Alces’ book is the strongest statement yet from those who argue for the view that the mind is the brain and we are just our brain.5 Advocates of the materialist and reductionist persuasion sometimes suffer from what Stephen Morse has described as “Brain Overclaim Syndrome.”6 As this review will detail, Professor Alces seems to suffer more than most. In his eagerness to convince the reader of his mechanistic view of humanity, Alces fails to marshall the facts and arguments needed to sustain even his milder claims. The reason for this is quite simple: neuroscience simply has not progressed to the point where it can even tell us how the brain enables the mind.7

This is not the first book that attempts to reconceive a field in the image of neuroscience. Prior efforts to reconceptualize disciplines as diverse as aesthetics,8 morality,9 poetry10 and even food and wine11 have been widely discussed. Some of these efforts have run afoul of basic

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5 See, e.g., D.F. SWAAB, WE ARE OUR BRAINS (2014)


7 See Ralph Adolphs, “The Unsolved Problems of Neuroscience,” 19 TRENDS IN COGNITIVE SCIENCES 173, 175 (2015) (“the biggest unsolved problem is how the brain generates the mind.”).


philosophical errors which cripple their analysis. Several of these same errors are found in Professor Alces’ book and we shall consider their implications for his position.

This review proceeds in five parts. I begin with a review of the philosophical presuppositions of Alces’ view of human agency. With that position in view, I then proceed through his treatment of the implications of this perspective in criminal law, tort law and contract law. I conclude with some remarks on the book under review and the prospects for future work in law and neuroscience.

Philosophical Presuppositions

Law, Alces asserts, “depends on a gross misunderstanding of its subject – the human agent” (p. xiii). Even worse, legal doctrine – the substantive rules of law – is grounded on a fallacious conception of human nature. If, as Alces insists, “brain science reshapes what we understand to be the meaning of being human, then that same brain science must reshape our law, from the moral foundations up” (p. 3). Law proceeds from the perspective of folk psychology which must be replaced by “[c]ognitive neuroscience [which] seeks to identify the physical cause of the actor’s behavior . . .” (p. 9).

The law, Alces avers, presupposes free will. From this, law imposes responsibility for action on agents who are always in a position of choice with regard to action. This “normative philosophy built on free will is incoherent” (p. 35). Contrary to the presuppositions of law, “neuroscience demonstrates the essentially mechanical (chemical, electrical, and structural) nature of our human agency” (p. 35). Free will is “a failed hypothesis (although it may make for

12 As yet, cognitive neuroscience is not sufficiently developed such that wholesale replacement of folk psychology is indicated. However, “until we have a better grasp of the brain science, folk psychology makes sense as a second-best solution” (p. 9).
an entertaining, or at least occasionally comforting, theology)” (p. 35). Human nature is not as
law would have it. The correct philosophy of action is not free will and responsibility. Rather, it
is a “materialistic, physicalist” (p. 35) approach, one that understands human action as
“resolutely deterministic” (p. 35).

Alces makes two broad theoretical claims. The claims are different but he does not seem
to realize this. This is important if for no other reason than the fact that different sorts of claims
require different types of vindication. First, with respect to materialism – which Alces repeatedly
asserts will be “disruptive” – his is a metaphysical claim. Materialism is the mode in which
Alces expresses his view that the mental reduces to the physical. We are, as he says, just
machines. Metaphysics is a branch of philosophy that concerns itself with the ultimate nature of
reality. It is “a philosophical theory about how the world as a whole is constituted.” Importantly, metaphysical claims “are not open to scientific confirmation or disconfirmation. If
they are to be confirmed or refuted, then it will be by analytical argument.”

Alces provides no arguments for his materialist metaphysics. None. He consistently fails
to distinguish between the empirical results of neuroscience (and other sciences) and the
metaphysical view he trumpets. The failure is significant. Alces is not the first to make such a
mistake. In discussing the work of French neuroscientist Jean-Pierre Changeux, Colin McGinn
explains the significance of such an omission:

13 See D.W. HAMLYN, METAPHYSICS 2-3 (1984) (comparing Kant, Berkeley, Hume, Spinoza and Leibniz on
the underlying nature of reality). See also PETER VAN INWAGEN, METAPHYSICS 11 (2015) (“In metaphysics,
there is no information, and there are no established facts to be learned.”). Simply by way of example, the debate
over universals and particulars is a classic example of a metaphysical debate. See “Nominalism in Metaphysics,”


In order to rule dualism out and establish materialism, Changeux [Alces] will have to engage in some philosophical argumentation—reciting empirical findings about the brain gets us nowhere. So the science has not replaced the philosophy; on the contrary, Changeux [Alces] can only hope to establish his materialist metaphysics by going beyond the science. What he doesn’t seem to realize is that he holds a philosophical position, which is not entailed by any known science.  

Philosophy matters and Alces fails to see this. Materialism drives the claim “you are your brain.” This is reductionist through and through. But there are strong reasons to resist materialist reductionism as a philosophical matter. First, there are many things that exist in the world that are not material. Laws, poems, numbers, theorems, games, and theater plays all come to mind. Even an explanation of an event or process is not reducible to the matter out of which the event is made (think of the Eagles winning the Super Bowl). As Bennett and Hacker put it:

[W]e are no more just a collection of cells (nerve cells or otherwise) than a painting is just a collection of pigments or brush strokes, a novel just a collection of words, or a society just a collection of people – although what more there is to a painting than mere pigments is not more pigments, what more there is to a novel that mere words if not more words, and what more there is to a society than mere people is not more people.  

Now, a second point. Alces thinks that all human action can be reduced to what goes on in the brain. One of the clearest examples of his position appears in his discussion of consent in contract law. He writes:

Neuroscience tells us that rational thought resides in the dorsolateral prefrontal cortex (dLPFC) and that the limbic system, particularly the amygdala, is the site of emotional reaction. The amygdala “lights up” (in the fMRI sense) when the subject is confronted with phenomena that we understand to evoke an emotion reaction, such as pushing a large person off a bridge and in the path of an oncoming trolley to save the lives of five innocents. Meanwhile, a brain image will demonstrate heightened activation of the dLPFC when the same subject is asked instead to reflect on the decision to throw a switch to divert the same trolley onto a side track, killing one innocent rather than five. Indeed,

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17 BENNETT and HACKER, supra note ___ at 359.
there must be something different about the two choices – throwing the person versus throwing the switch – that very literally resonates in the brain and is manifest in distinguishable patterns of neural activity (p. 197, citations omitted).

Reducing human action to what goes on in the brain runs up against the Act/Object fallacy. The fallacy is a failure to recognize that there is a difference between what one thinks about and the activity of thinking about it. McGinn explains:

Suppose an overeager brain scientist were to announce the new field of “neuromathematics,” in which old-fashioned mathematics was to be replaced by studies of the brains of mathematicians. Instead of talking about numbers and geometrical forms, we are to talk only of neurons—this being the scientific way to do mathematics.

Our enthusiastic brain scientist has clearly confused two distinct things: the subject matter of mathematical thought—numbers and geometric forms—and the mental acts whereby mathematicians grasp that subject matter. To be sure, when mathematicians think, their brains whir and buzz, but that does not entail that what they think about is their own brain.18

The point is simple. One learns nothing about mathematics, morality or law by looking in the brain. Assessing computational performance is not a neuronal matter. As the philosopher Timothy Scanlon observes, “[t]here are mathematical standards for answering mathematical questions, scientific standards for answering empirical questions about the physical world, and forms of practical reasoning for answering questions about what we have reason to do.”19 Alces writes as if virtually all human practices can be reduced to neuronal activity, as if somehow the practice of, say, mathematics is just a matter of what goes on in the brain of mathematicians. This is a very strong and controversial claim for which he provides no arguments.20

18 McGinn, supra note __ at 49-50.


20 As I will detail in the course of this review, Alces provides little in the way of empirical support for his materialist and determinist claims. The science that would support such claims simply does not exist. Quite simply, neuroscience cannot tell us how the brain enables the mind. See Adolphs, supra note __ at 173–75.
With his philosophical framework on the table, Alces proceeds to discuss its implications in three areas of law: criminal law, tort law, and contracts. For each body of law, he devotes a “Doctrine” chapter and a “Theory” chapter. The normative commitments of each body of law are surveyed and then subjected to a materialist critique. While there are variations in the arguments, the overall trajectory of each of the chapters is the same: to demonstrate law’s untenable presuppositions with respect to human agency. After completing his survey of these three areas of law, Alces finishes with a chapter entitled “An Age of Realization.” There he systematically goes through six arguments, each of which he designates a “Strawman.” But first, let us consider the law.

Criminal Law

Having articulated his philosophical commitments, Alces then moves into the heart of his book, beginning with the treatment of doctrine and theory in criminal law. The essence of the doctrine chapter is captured in this sentence: “For our purposes, it is sufficient to interrogate, in a general manner, how conceptions of human agency in the current criminal law rely on assumptions that emerging neuroscientific insights could undermine” (p. 41). Responsibility, free will, and human agency are the central notions.

The criminal law doctrine chapter begins with a statement the truth of which cannot be doubted:

[T]he criminal law sees issues of moral responsibility and the essence of human agency loom larger than in any other primary doctrinal area. The criminal law assumes that
human agents are responsible in a normative sense, an assumption inherent in both noninstrumental and instrumental conceptions of desert (p. 40).

The strategy of this chapter is “to interrogate, in a general manner, how conceptions of human agency in the current criminal law rely on assumptions that emerging neuroscientific insights could undermine” (p. 41). Alces’ conclusion is that in light of what neuroscience teaches us about human agency, we might well come to the conclusion that existing criminal law doctrine is “incoherent” (p. 42) or worse.

The chapter has three parts, each of which serves a different argument. First is the criminal law’s presupposition of responsibility. If human action really is mechanistic, then responsibility is out of place. Second is cognitive capacity. Alces thinks that criminal law doctrine is insensitive to limitations of cognitive capacity. Finally, and of great interest, are the effects of nature and nurture on behavior. Here Alces relies on empirical studies to bolster his metaphysical claims about materialism and determinism.

Responsibility requires the presence of someone – an “I” – who is responsible. Alces maintains there is no such I. “None of our actions is the product of free will” (p. 43), he maintains. And yet, the “criminal law is committed to the reality of free will” (p. 43). Not only is there no I, there is no entity upon which external forces (e.g., chemical, neuronal or environmental) act. The “I” is simply the site where these forces come together. We are simply machines, just like our automobiles.

Alces is surely correct. That is, if there is no I, no agent capable of choice and merely the products of external forces, then the criminal law is a house of cards. As he puts it: “if there is no such thing as free will, then there is no normative sense of responsibility” (p. 43). But is there
any reason to think that this is the case? Alces answers this question but not immediately. We have to wait for the third argument.

The second argument concerns cognitive capacity. The criminal law makes allowances for defendants suffering from cognitive deficit. Alces draws our attention to the US Sentencing Guidelines\(^\text{21}\) and some leading cases\(^\text{22}\) in support of his contention. He points out that while the criminal makes graded distinctions among offenders, it lacks the empirical tools one finds in neuroscience. Psychopaths provide a difficult example. Psychopathy is “a verifiable and very material brain condition” (p. 51). But psychopaths are subject to criminal liability notwithstanding their neurological condition. What is to be done? Alces thinks psychopaths take us to the limits of criminal and constitutional law. In the Minority Report context, where the neurological status of the potential offender is known, the question is “should the criminal law intervene?” (p. 52). Alces recognizes that current constitutional law would preclude such an intervention but, when the criminal law is revised in the light of further developments in neuroscience, he is more sanguine about the prospects for change in the criminal law.

This takes us to the third and most interesting claim by Alces. He characterizes this set of issues with the moniker “nature and nurture.” His point is that the effects of nature (e.g., genes and neuronal condition) as well as environment (e.g., poor child rearing, abuse, environmental effects) all determine our behavior. This is the empirical portion of Alces’ proof that we are

\(^{21}\) U.S. SENTENCING COMMISSION, GUIDELINES MANUAL (NOV. 2012).

nothing more than the product of the forces that parse through our brain and body. Alces explicitly relies on the pioneering research of Adrian Raine.\textsuperscript{23}

Alces states that research by Raine (and others) shows that “[w]e are, indeed, just the sum of forces – and we cannot even say ‘the sum of forces acting upon us,’ because there is no ‘us’ independent of those forces” (p. 53). This statement is pure hyperbole.\textsuperscript{24} Let us consider Raine’s work in detail.

Raine’s book \textit{The Anatomy of Violence: The Biological Roots of Crime}\textsuperscript{25}, is a major contribution to the field of criminology.\textsuperscript{26} Through his own research as well as thoughtful commentary on the work of others, Raine demonstrated that the combination of environmental factors (e.g., exposure to lead, stability of home environment), child rearing failures (e.g., pregnancy and birth complications, physical abuse, alcohol and drug use), genetic predisposition

\textsuperscript{23} Raine gives a generous endorsement of Alces’ book on the back cover.

\textsuperscript{24} A smaller instance of hyperbole is Alces’ discussion of \textit{Roper v Simmons}, the US Supreme Court case that mentioned neuroscientific studies of adolescents. Alces claims that in \textit{Roper}, “Justice Kennedy took account of neuroscientific insights into adolescent brain development” (p. 60). This is simply not true (and Alces provides no reference to the opinion in support of this claim). The briefs of the parties were filled with references to neuroscientific studies of adolescents but Kennedy did not cite a single one. For a complete discussion of the opinion, see Stephen J. Morse, “Brain Overclaim Syndrome and Criminal Responsibility: A Diagnostic Note, OHI STATE J of CRIMINAL LAW 397-412 (2006).


\textsuperscript{26} The book is not without its thoughtful critics. Raymond Tallis wrote the following in a review of the book in the popular UK newspaper, The Telegraph:

Raine is sufficiently savvy to know that if you test for enough correlations, something will turn up, particularly if (as often in his line of work) the numbers of subjects are small, rarely checked in repeat studies, and there is a publication bias that favours exciting positive findings over disappointing negative ones. And he knows that correlation does not imply causation: finding differences in the brains of criminals does not mean that the differences explain criminal behaviour. Even so, this does not inhibit him from precise claims about the role of different portions of the brain in the making of various kinds of criminal.

and neuronal incapacity (e.g., concentrations of hormones and neurotransmitters, reduced amygdala volume, prefrontal cortex gray matter volume, hippocampus, and thalamic activity) all contribute to creating a proclivity for antisocial and violent behavior. Interestingly, a singularly accurate characteristic of psychopaths is a low resting heart rate,\(^{27}\) which is explained by fearlessness and simulation-seeking theories.

As everyone knows, correlation is not causation. Nor is predilection a guarantee of anything. In contrast to Alces, Raine is far more modest in his assessment of the hard determinism one might embrace as a result of his research. On free will, he writes:

Free will likely lies on a continuum, with some people having almost complete choice in their actions, while others have relatively less. Rather than viewing intent in black-and-white, all-or-nothing terms, as the law does, with a few exceptions, I see shades of gray. Most of us lie between these extremes. Think of the free-will concept like IQ, extraversion, or temperature, which are dimensional in nature. There are degrees of free will, and we all differ on that dimension of agency.\(^{28}\)

There is little to disagree with here. Raine has shown that the biosocial interactions of environmental and genetic factors incline some people to engage in antisocial and violent behavior. But, as argued, determinism is not a plausible corollary of this research. Consider the example of none other than Adrian Raine himself: not only does he have a significantly low heart rate, but a brain scan revealed he has the brain structure of a psychopath.\(^{29}\)

Alces’ reductive impulse is on display early in the criminal law theory chapter. He writes: “folk psychology significantly reduces to cognitive neuroscience and so cognitive


\(^{28}\) ADRIAN RAINE, supra note __, at 307.

\(^{29}\) The interview and further details are found in https://www.theguardian.com/science/2013/may/12/how-to-spot-a-murderers-brain (last accessed 13 February 2018).
neuroscience reveals the deficiencies, in the normative sense, of folk psychology” (p. 69).

Variously described as a “chimera” and “alchemy,” folk psychology is bashed heavily, as it plays such a large role in the structure of the criminal law. Again, materialism will vanquish folk psychology and, with it, criminal law doctrine: “A thoroughgoing materialism challenges criminal law doctrine, and appreciation of what the perspective entails would profoundly reorder the morality that criminal law instantiates” (p. 73).

As mentioned earlier, Alces provides no arguments in support of his contention that materialism vanquishes folk psychology. He uncharitably characterizes Stephen Morse and Michael Moore as “apologists for the doctrinal and normative status quo of extant criminal law. . .” (p. 94). Their sin, as Alces explains, is to employ folk psychology to prop up a conception of responsibility at odds with the truth of materialism. Alces cannot abide this. As he explains, “[f]or the materialist, the criminal doctrine’s insistence upon moral responsibility is akin to extracting gold from lead, a remnant of burning witches and punishing epileptics for being possessed by demons” (p. 94).

There can be no moral responsibility if there is no agency as the criminal law conceives it. And criminal law is all wrong about agency because there is no human agency. The law’s conception of the person is a fiction. As Alces remarks: “[m]oral responsibility depends on the reality of beliefs, desires, and intents that in turn rely on the supernatural, on our being autonomous gods who can cause without being caused. That is the view that neuroscientific insights challenge” (p. 98).

What are the neuroscientific insights that support such a wholesale condemnation of the presuppositions of the criminal law? Surprisingly, in this chapter, Alces cites no neuroscience research for his claims about moral responsibility. The work of Adrian Raine is referenced at
several points in the criminal law theory chapter but there is nothing more. There are at least two reasons why this nod to the work of Raine falls short. First, as argued earlier (and confirmed by Raine himself), proclivity is not destiny. There is a world of difference between an individual possessing violent tendencies and the view that every human action is the product of a mechanism. Second, and more importantly, materialism is a metaphysical view that cannot be confirmed by scientific experiment. To claim otherwise, as Alces does, is a category mistake.\(^3\)

**Tort Law**

Tort law lies between criminal law and contract law with the former regulating harm, and the latter governing self-imposed duties that arise out of consent. (p. 102). Alces focuses on unintentional torts in Chapter Four, devoted to tort law doctrine. He eschews focus on intentional torts in favor of an analysis of unintentional torts because those “involve a different state of the brain: negligence” (p. 102). Tort liability is built on a standard of reasonableness. Neuroscience can potentially contribute to the reformation of tort doctrine through “a conception of reasonableness informed by empirical reality” (p. 102).

Alces considers three aspects of tort doctrine. First is the standard of care. Here, neuroscience can reveal an uncertainty in the doctrine, as it will reveal “the absolute incapacity of the parties to act reasonably, notwithstanding doctrinal insistence that we assume capacity or ignore incapacity in fact” (p. 103). Next up for examination is proximate cause. The focus is on just who is the cause of injury? Is it possible that we are “not . . . the proximate cause of what happens in our brains” because, as neuroscience demonstrates, there is no “‘we’ separate from

our brains” (p. 103). Finally, neuroscience can contribute to eliding the distinction between mental and physical injury, for “all injury is ultimately and fundamentally physical” (p. 103).

In a section entitled “What Advances in Neuroscience May Reveal,” Alces presses a theme seen throughout the book, that is, the idea that advances in neuroscience will directly impact the rethinking of legal doctrine. He asks the question this way: “If we are all just the product of our unique physical and mental (also necessarily, at some level, physical) characteristics, what do we hope to accomplish by the imposition of tort liability?” (p. 110). Alces leaves the answer to the next chapter, on tort law theory, but he provides a few examples from tort law doctrine that will feel the impact of revision in the light of neuroscientific evidence.

As Alces explains, under tort law, the tortfeasor’s actions must be the proximate cause of the victim’s injuries. Further, if the victim contributed to her own injury, then the fault of tortfeasor and victim is compared. If each party is equally at fault, then the victim is not entitled to damages. Alces is surely right that, in any particular case, the calculus may be opaque (p. 111). Neuroscience can assist “by shedding light on whether the plaintiff could have taken steps that would have reduced or eliminated altogether the consequences of the defendant’s actions” (p. 111). Addiction provides another example.

Take the case of cigarette smoking. Cigarette manufacturers take full advantage of the brain’s proclivity to addiction. If cigarette manufacturers took advantage of this proclivity, should a plaintiff’s smoking behavior be deemed a contributing factor to their ill health? As Alces puts it, “if the plaintiff is not in control of his addiction, if the defendant caused the plaintiff’s dependence on the product that damages the plaintiff’s health, then is it appropriate to
reduce the plaintiff’s recovery on account of a variable that the defendant controlled and exploited?” (pp. 113-14). This is an excellent question.

Alces thinks the answer to his question lies in an account of “dualism,” which he frames as a conceptual issue. He discusses an argument by David Wallace,31 a litigator who challenged the notion that “a plaintiff who proves addiction may recover from cigarette manufacturers” (p. 114). Wallace’s argument was simple and straightforward: “Smoking behavior is not the work of a homunculus in the brain or neuronal circumstances. . . Brains do not smoke cigarettes; acting people do, and the whole human organism involved. For the same reason, brains are not subject to responsibility attribution; acting people are. Law is about personhood, not biophysical function.”32

Alces’ critique of Wallace’s argument is that it is “dualistic” (p. 114). The assertion “Brains don’t kill people; people kill people”33 is consistent with “the disposition of the current tort law doctrine which relies on the very dualism [of] the brain and the person as though the two are separate, distinct in some way pertinent to the normative calculus” (p. 115). While Wallace sees the question as “who is in charge for responsibility of accountability purposes, the brain or the person,”34 Alces contests the notion that there is a “person” separate from the brain. He


32 Id. at p. 93. Cited and quoted by Alces at p. 114.


34 David Wallace, supra note __, at 93. Cited and quoted by Alces at p. 115.
directs his critique at the argument advanced by M.R. Bennett and Peter Hacker in their book
*Philosophical Foundations of Law and Neuroscience*.  

The argument that Bennett and Hacker made is conceptual in nature, relying on the mereological fallacy. The fallacy is committed when one attributes a capacity to a part of an entity that is only attributable to the whole. Consider a simple example, a watch. Suppose someone asked of a watch “Which part of the watch tells the time? Is it the face of the watch, the hands, or the internal mechanism?” The correct answer is “all three.” Together, the components of the watch tell the time. It is an error, a conceptual error, to reduce a watch’s capacity to tell time to one of its components. To do so is to commit the mereological fallacy.

Alces seems to think that this explanation presupposes “a separate ousia” (p. 114). Such an explanation, he argues, crosses “the ontological divide . . . by positing that the person who thinks and feels is not the brain that performs those concomitant functions (firing neural synapses, etc.). Personhood is the nonphysical entity linked to the now materially grounded mind. But on what grounds can this person be said to exist if it is a nonphysical entity?” (pp. 114-15, citation omitted) As I hope I have made clear, there is no more reason to think that there is a nonphysical entity (i.e., a person) than there is reason to think there is a nonphysical watch.

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35 See M.R. BENNETT and P.M.S. HACKER, *supra* note __, at __. Also mentioned as making the same mistake is MICHAEL S. PARDO and DENNIS PATTERSON, *MINDS, BRAINS, AND LAW* (2013). With respect to the latter, Alces claims Pardo and Patterson describe mind as “a collection of properties.” (114). What they said was that the “mind” is best thought of as an array of capacities. See PARDO and PATTERSON, Id., at 44 (“To have a mind is to possess an array of rational and emotional powers, capacities, and abilities exhibited in thought, feeling, and action”).

36 For a detailed explanation of the fallacy, see Harry Amit and Peter M.S. Hacker, “Seven Misconceptions About the Mereological Fallacy: A Compilation for the Perplexed,” 79 ERKENNTNIS 1077-1097 (2014).

37 See BENNETT and HACKER, *supra* note __, at 68-85.
separate from the functionally integrated components that comprise the thing called a “watch.” ³⁸ Alces’ entire argument regarding “dualism” misses the mark completely.

Chapter Five is devoted to neuroscience and tort law theory. Alces correctly notes that the heart of tort law theory is corrective justice. As first articulated by Aristotle,³⁹ the goal of corrective justice is to rectify civil wrongs through an award of damages. In tort law, as the party responsible for loss, it falls to the tortfeasor to compensate the victim in an amount that will make the victim whole. Corrective justice is, as Alces notes, “the dominant contemporary noninstrumental [theory] of tort” (p. 138). The main focus of the chapter is as follows: “central to the task is fixing the conception of human agency formulated by the apposite noninstrumentalist theory, here corrective justice, and comparing that conception with human agency as revealed by neuroscience: Is the human agent contemplated or assumed by noninstrumentalist normative theory authentic in light of what neuroscience tells us it means to be human?” (p. 138).

Alces surveys three leading theories of corrective justice as a prelude to taking up the question of agency. The four theorists whose work he considers are Ernest Weinrib, Jules Coleman, John Goldberg and Ben Zipursky. Weinrib’s account of corrective justice proceeds from a sophisticated account of the nature of private law.⁴⁰ With an emphasis on the work of Kant, Weinrib has developed the leading alternative to law and economics, the dominant paradigm in tort law. Jules Coleman, also committed to a theory of corrective justice, argued

³⁸ See JOHN HYMAN, ACTION, KNOWLEDGE AND WILL (2015). (“We can even distinguish the part of the brain that causes motion in a hand from the part that makes the heart contract. But this will not tell us why we assign one kind of motion and not the other to the agency of the human being as a whole. The key to answering this question is integration, and not the activity of a specific organ . . .”).


that moral responsibility (i.e., answering for a wrong) was the conceptual centerpiece of tort law. As such, it presumes “reliance on responsibility” (p. 152), a notion that is consistently under pressure in the neuroscientific account of agency. Finally, John Goldberg and Ben Zipursky have developed a conception of tort law they refer to as Civil Recourse theory. The centerpiece of their theory is the notion of blameworthiness which, as Alces notes, “is a constituent of the wrong itself [and] that distinguishes actionable wrongs from wrongs that are not actionable” (p. 158).

Not surprisingly, each theory is rejected because it presumes a form of agency that is vanquished by neuroscience. 41 Thus, Weinrib’s view is described as “incoherent” (p. 143), Coleman’s analysis is “not a model of clarity” (p. 153), and Goldberg/Zipursky are dismissed as purveyors of “alchemy” (p. 158). This is not the surprising aspect of this chapter. Alces began this chapter with this statement: “The focus of this chapter . . . is to consider the impact of neuroscientific insights on noninstrumental theories of tort” (p. 138). Given that focus, it is surprising that in the course of his critique of the work of leading tort law scholars, Alces cites not a single piece of neuroscientific research in support of his strong claims. What is badly needed is a demonstration of how the neuroscientific conception of agency can both displace and replace our current regime of tort law. Again, it is not that Alces’ argument is incorrect, rather, it is that he provides no argument whatsoever. To make his case, he needs to bring neuroscientific

41 Alces at pp. 139 - 40: “The conclusion is that corrective justice retains and relies upon a conception of human agents’ moral responsibility that is infirm – actually, incoherent.” Alces uses the adjective “incoherent” quite often to describe views he disagrees with. In point of fact, there is very little, if any, incoherence in the views he attacks. The views of the four tort theorists discussed here are quite coherent (i.e., they bear all the hallmarks of unity and internal coherence); they simply proceed from different premises than Alces. A view may be incorrect but that does not make it incoherent. Alces seems not to realize this.
research to bear on tort law doctrine and theory. Otherwise, he is simply engaged in a question-begging exercise.

**Contract Law**

As a professor of contract and commercial law, Alces is in complete command of contract doctrine. Consent, Alces argues, is a good place to assess “the effect that neuroscience may have on contract doctrine. The primary reason for that is the central, defining role played by consent in contract law” (p. 180). In this chapter, Alces promises to bring “empirical evidence particularly pertinent to contract law” (p. 181) to bear on “contract law, our enhanced understanding of cognitive function and capacities – more accurate assessments of the nature of human agency when decisions are made and legal obligations voluntarily assumed . . .” (p. 181).

Alces reviews two contract/commercial law doctrines to anchor his subsequent analysis of consent. First is the Uniform Commercial Code’s Section 2-207, which addresses the so-called Battle of the Forms problem. Section 2-207 was designed to solve the so-called Last Shot problem at common law. Under the common law, where parties exchange forms with different terms, in the absence of explicit consent by one of the parties, if there is “performance,” then the party in the document last sent by one of the parties become the terms of the agreement. What Section 2-207 accomplishes is the production of an agreement out of the conflicting terms of the

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42 In point of fact, Alces does not bring neuroscientific research to bear in most parts of his book. The reason is simple: there is none. Neuroscience is nowhere near where it needs to be to support the claims Alces makes for it.

43 His most recent book in the field is PETER A. ALCES, A THEORY OF CONTRACT LAW (2011).
parties’ forms.\textsuperscript{44} Consent is, in a sense, “manufactured” as the terms of the resulting agreement exclusively those of either party.

The second context for consent is in the consumer context. Alces discusses a number of cases, including \textit{Hill v Gateway}.\textsuperscript{45} \textit{Hill} is an infamous opinion by Frank Easterbrook, wherein Easterbrook decided that consumers could be bound by terms in the box of a computer they had purchased over the internet notwithstanding the fact that they had no access to the terms of the agreement prior to receiving and opening the box upon its arrival. As Alces correctly comments, Easterbrook’s conclusion that there was consent to the unseen terms is “unfathomably opaque” (p. 186).

A finding of “consent” is a normative judgment. Alces is surely correct about this. As he says, “consent is more of a conclusion than it is an analytical tool” (p. 187). But that conclusion is shaky when put under the light of neuroscience. “Neuroscience may reveal that the consent conclusion – which strings together isolated facts to produce a complete constellation that leads to certain outcome-determinative inferences – is an unreliable if not altogether deficient means of performing the normative task that doctrine ought to perform” (p. 187).

Consent can be the object of manipulation. Alces argues that neuroscience can show just how consent is manipulated in ways that legal doctrine presently fails to take account of. His analysis is convincing and is the best example of the promise of neuroscience for law reform. He

\textsuperscript{44} Alces at p. 183. (“Section 2-207 provides that a contract exists on the terms common to both writings combined with terms supplied by prior practices or accepted trade usage.”)

\textsuperscript{45} \textit{Hill v Gateway}, 105 F.3d 1147 (7th Cir. 1997).
begins with the pioneering work of Hanson and Yosifon on “Situationism.” The crux of Situationism in the contract context is that far from being rational actors, we are captured by our circumstances. We think we are in control but we are not: “Our experience of will . . . is not only an internal illusion, it is an internal illusion that is susceptible to external situational manipulation . . . Our point . . . is that our experience of will – our familiar experience that our will is responsible for our conduct – is often not a reliable indicator of the actual cause of our behavior . . .” (Alces at 191, citing and quoting Hanson and Yosifon at 132-33, emphasis in original).

Alces pours scorn on the Restatement’s failure to take empirical realities into account. With a nod to the pioneering work of Daniel Kahnemann, Alces argues that neuroscience shows us “[t]here are cognitive processes – chemical, electrical, and structural – that operate and cooperate when agents (human or otherwise) make a decision, but there is nothing fundamentally different about the two that justifies elevating one over the other” (p. 197). Understanding “neural structures and functions” (p. 199) help us to understand that consent can be manipulated. Once we do this, we realize that “[n]euroscience can reinforce limitations on consent and demonstrate that those limitations are not the product of political commitments but instead the product of good science” (p. 201).


47 To the same effect in the neuroscience context, see DANIEL M. WEGNER, THE ILLUSION OF CONSCIOUS WILL (2002).

48 Alces at p. 192 (“The restatement ignores empirical evidence, the reality of human agency in this context, and attributes legal significance to an empty gesture without offering any normative argument for doing so.”).

49 DANIEL KAHNEMANN, THINKING FAST AND SLOW (2011).
If neuroscience could teach us something about manipulation and how it undermines contract doctrine, it would be a useful tool. That is not quite Alces’ aspiration. He thinks that consent doctrine actually facilitates manipulation because it presupposes an account of human agency that is at odds with neuronal reality. Alces’ aspiration here is noble but it rests on a conceptual error. Neuroscience cannot give us a conception of consent or any other concept. The relationship of the conceptual to the empirical is that one first needs a concept before that concept can be tested. For example, to know whether someone is lying on any particular occasion, we must first have a conception of what it is to tell a lie. Neuroscience won’t give us that. In short, normative questions cannot be answered by science, even good science.

Chapter Seven, on neuroscience and contract theory, “applies the neuroscientific template to theories of consent in contract” (p. 202). Alces has philosophy in his sights right from the first paragraph. He writes: “Philosophical inquiry that proceeds without taking account of the normative limits of human agency could be nothing more than an insubstantial intellectual enterprise, unlikely to describe or prescribe very well at all” (p. 202). The reader has a sense that some sacred theoretical accounts of contract law are about to meet their end. Because most accounts of contract are grounded in the will, they are set up for failure, for will is “a folk psychology concept for which we may struggle to find a reality referent in the neuroscience” (p. 204).

50 He writes: “This chapter has described the consent doctrine in the context that challenges most profoundly its dissonance with the realities of human agency. And it has demonstrated too how that dissonance may be exploited to frustrate rather than to serve the normative objects of contract law.”

51 See PARDO and PATTERSON, supra note __, at 109-110 (discussing the nuances of the concept of a lie).

52 Alces describes them as “exemplary noninstrumental normative theories of contract” (p. 202).
Alces’ announced his focus in this theory chapter as being “on the fit, or, rather, lack of fit between noninstrumental normative theories and the authentic conception of human agency that neuroscience provides” (p. 209). Even more strongly, he asserts: “[t]he fundamental thesis of this chapter is that all noninstrumental (and largely deontic) normative theories of contract do necessarily fail because they miscomprehend human agency” (p. 210). Human agents, he continues to assert, “are not morally responsible” (p. 210).

Alces surveys a number of leading contract theories. Not surprisingly, he delivers his strongest rebuke to those that depend on a conception of will. Charles Fried and Randy Barnett53 are singled out for particularly harsh treatment. Following Kant, Fried was the first scholar to develop a philosophically sophisticated account of the grounds of contractual obligation.54 The rejection of Fried is for a reason that is not difficult to see: “normative theory that depends upon the will to explain anything fundamental about human agency would be profoundly suspect (at least), insofar as the will is a folk psychological construct that lacks independent substance” (p. 221). And if that were not enough, we are told that “what undermines the theories considered here undermines all noninstrumental theories that rely on an inauthentic sense of human agency” (p. 222).

What is to be done? How can Kant, Fried, Barnett and a host of other scholars respond to this critique? Alces is surely right that if there is no such thing as human will and no one is responsible for anything, then these theories fail. But that is just a tautology. Do we have any

53 Barnett is described as “less philosophically pretentious” than Fried. Alces at p. 220. Additionally, his theory of contract as consent is has “perhaps curiously, been afforded significant prominence in the theoretical dialogue” (p. 231).

54 CHARLES FRIED, CONTRACT AS PROMISE (2d ed., 2015).
reason to think that human agency is as Alces maintains? Throughout this review, I have argued that Alces is both confused about what it takes to make a convincing case for his strong claims and that he extrapolates far too much from the limited empirical work he marshalls to make his case. Both of these tendencies are strongly on display in the contract theory chapter. It is not the better for it.

Six Strawmen

The late, great philosopher Jerry Fodor, once said that “if commonsense intentional psychology were really to collapse, that would be, beyond comparison, the greatest intellectual catastrophe in the history of our species; if we’re wrong about the mind, then that’s the wrongest we’ve ever been about anything.” When Fodor refers to “we” he means the entire philosophical community since Descartes. Peter Alces thinks “we” are all wrong. He compares our conception of mind to intelligent design, racial prejudice, bloodletting, occultism, magic, and alchemy (p. 235).

This final chapter takes up Fodor’s challenge “by knocking down the strawmen that founded his fears and the fears of like-minded legal theorists” (p. 236). The legal theorist singled out for comment and critique is Stephen Morse, arguably the most skeptical voice in the field of law and neuroscience. As Alces sees it, one thing Morse got right was that criminal law, indeed, all of law, “depends on folk psychology” (p. 236). But this is doomed because “deontological normative theory fails to understand the nature of human agency, and that failure is confirmed by

the insights neuroscientific findings provide into the way the behavior of human agents is
determined” (p. 237).

Common sense has a lousy track record. That is the first of Alces’ six strawmen. Alces
trots out a litany of sins he attributes to common sense. And he makes some good points. But
there are still some things common sense dictates that seem to hold true. But Alces clearly thinks
science – neuroscience – will trump everything common sense might dictate. Like many things
he says in this book, that seems extreme.

Stephen Morse is famous for his claim of Brain Overclaim Syndrome.56 For years,
Morse has argued that those who claim that neuroscience will open up the brain and let us see
“under the hood” are overclaiming for the power of science to give us insight into how the mind
works. The case around which the debate rages is that of Mr Oft.57 Oft had a large suborbital
tumor which, when excised, was followed by cessation of his sexually inappropriate behavior.
Alces claims that this should lead to the conclusion that Oft was in no way responsible for his
behavior.58 But Morse pointed out that simply because Oft’s behavior was caused, that, in itself,
is not a reason to give him a pass. Morse argued that all behavior is caused.59 This is something

56 Stephen J. Morse, “Brain Overclaim Syndrome and Criminal Responsibility: A Diagnostic Note, Ohio State J of

57 The case is discussed in Stephen J. Morse, “Lost in Translation: An Essay in Law and Neuroscience,” in 13 LAW

58 Alces at pp. 242-43. (“[T]he neuroscientifically sophisticated response to the curious case of Mr. Oft concludes
that once the offending tumor is confirmed to have been the efficient cause of Mr. Oft’s aberrational behavior and is
certainly completely removed, there is no reason to incarcerate him.”).

59 Stephen J. Morse, “Lost in Translation, “ supra note __, at 560. (“Oft’s desires may have been mechanistically
caused, but acting on them was intentional action. An Abnormal cause for his behavior does not mean that he could
not control his actions . . . .We can reasonably infer that Oft had difficulty controlling behavior . . . [b]ut this is true
of all paedophiles and we do not excuse them.”), cited and quoted by Alces at 330, n. 23.
Alces could agree with, given his materialistic view of agency. But if all behavior is caused, then the only way Oft gets a pass is if every offender gets a pass. This, it seems, is precisely what Alces maintains. But this is a poor argument. No one ever showed that Oft’s tumor was the efficient cause\(^60\) of his behavior. Oft’s behavior was not akin to epilepsy, that is, an uncontrolled behavior response to an organic cause. Of course, the tumor inclined Oft to aberrational behavior. But whether that inclination is itself sufficient as a defeasing condition for responsibility requires a moral argument. Alces provides no such argument.

Can we derive ought from is? Do the conclusions of neuroscience, by themselves, dictate normative conclusions? Alces thinks so but there is a considerable literature to the contrary.\(^61\)

Consider addiction. Does addiction negate mens rea? Morse argues that “when addicts are not intoxicated and not in peak craving states, they know they will become intoxicated again unless they take steps to avoid future intoxication, which they are capable of doing when lucid.”\(^62\) Are addicts capable of responding to reasons? At times, yes. And, so Morse argues, they are sufficiently endowed with reason to make choices, which lies at the heart of responsibility for

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\(^{60}\) Alces does not elaborate on the meaning of “efficient cause.” The term comes from Aristotle. See Aristotle, Physics II 3, 194b29. “Efficient” means “physical.” See Robert C. Bishop and Harald Atmanspacher, “The Causal Closure of Physics and Free Will, in OXFORD HANDBOOK OF FREE WILL 102, n1 (Robert Kane ed., 2d. ed 2011) (“A paradigmatic example of a physical (efficient) cause is the collision of material objects like moving cars.”). Neuroscience is not even close to the level of explanatory perspicacity claimed by Alces. See SALLY SATEL & SCOTT O. LILIENFELD, THE SEDUCTIVE APPEAL OF MINDLESS NEUROSCIENCE 150 (2013) (“Neurosciences cannot yet forge tight causal links between brain behavior and data.”). Additionally, the problem with scans is that scans are simply not contemporaneous with the crime. See Helen Mayberg, Does Neuroscience Give Us New Insights into Criminal Responsibility?, in A JUDGE’S GUIDE TO NEUROSCIENCE: A CONCISE INTRODUCTION 37, 37-39 (Andrew S. Mansfield ed., 2010) (stating the principal difficulty in trying to make inferences about criminal responsibility from brain lesions and changes in the brain is that scans are not sufficiently contemporaneous with the crime).


action. Alces’ materialism won’t abide such talk. He rejects Morse’s position out of hand. Compatibilism, Morse’s view, is dismissed as “malignant” (p. 244) for his failure to recognize the truth of hard determinism. Again, no argument for hard determinism – a metaphysical view – is advanced, just asserted.

But could compatibilism be true? Many philosophers think so but Alces dismisses these philosophers because “many of the arguments for compatibilism were developed before the dawn of the Age of Realization, when neuroscience could reveal aspects of human agency that philosophers could not even imagine, even from the armchair” (p. 247). But this is a shallow riposte. Many philosophers and lawyers (Morse included) have considered the merits of hard determinism and found it wanting. But, again, this is a metaphysical argument, one that cannot be sustained by pointing to neuroscientific evidence. Alces simply fails to see this.

Does neuroscience explain why folk psychology is “wrong”? Alces claims that it does (p. 249). Just as we would not imprison someone for bad eyesight, we do not punish someone for the ill effects of a tumor. Punishing Oft is akin to punishing your car for not starting. We would no more apply folk psychology to the car than we should to Oft. Oft, like the car, is a machine in need of repair (p. 250). Folk psychology is like Newtonian physics: it worked well enough “to explain what needed to be explained up to the twentieth century” (p. 250). But it is defunct.

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63 See, e.g., MARKUS GABRIEL, supra note __, at 199.

Finally, can neuroscience explain justice? Yes, Alces maintains. But only when we first recognize that “justice, fairness, reasonableness, and their cognates generally describe not morally real things but emotional reactions” (p. 251). Neural phenomena “chemical, electrical, and structural- are all that we are, all that any living thing is” (p. 252). Neuroscience does, indeed, explain justice. In fact, neuroscience explains justice “as it explains everything else about human agency, in mechanical terms. And that is true even if we have not yet figured out all the mechanics” (p. 253). Indeed, as neuroscientists have noted, current neuroscience explains very little about human capacities, let alone the large topic of agency.

**Conclusion**

Throughout his book, Peter Alces overclaims to a surprising degree. Neuroscience is a rapidly growing but young science. Its primary investigative tool, the fMRI, has substantial technical challenges that, in time, will be overcome. But many of the problems in the field of law and neuroscience are conceptual: we simply don’t know how to relate scientific developments to conceptual and legal questions. Much work needs to be done. Alces’ book will

65 See, e.g., Adolphs, supra note __.


contribute to the discussion, if only for the force with which his case is made. But enthusiasm is
no substitute for clear thinking. The book is a prime example of neuromania.